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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Masamitsu TAKAHASHI et al.

Serial No.: 10/823,618

Filed: April 14, 2004

For: STORAGE SYSTEM, METHOD OF CONTROLLING STORAGE
SYSTEM, AND STORAGE DEVICE

**PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

December 22, 2004

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on April 14, 2004 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

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3. Search

Applicants hereby submit that a pre-examination search has been made by a professional searcher, (a copy of which is attached), in the following classes and subclasses:

<u>Class</u>	<u>Subclass</u>
707	204
709	219
711	148, 161, 162
714	7

4. Copy of References

A listing of all references found by the professional searcher is provided on a Form PTO-1449 and copies of the references and the Form PTO-1449 are submitted as part of an Information Disclosure Statement (IDS) filed on even date.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on even date that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on even date are **not** treated in detail herein.

a. Detailed Discussion of the References

U.S. Patent Publication No. 2002/0059505 (St. Pierre) is entitled Method and Apparatus for Differential Backup in a Computer Storage System. Disclosed is a backup storage system. A differential backup generator receives information specifying which physical segments of storage in a physical storage device have changed and generates differential backup of changed segments. A backup storage device may be included to store the differential backup. A complete backup copy of a plurality of segments of data in a computer storage system may be formed from an earlier backup copy and a first later copy (see paragraphs 36 and 37).

U.S. Patent Publication No. 2003/0229764 (Ohno), assigned to Hitachi, is entitled Data Storage Subsystem. Disclosed is a data storage subsystem, which may be provided with an original side data storage subsystem. Each data storage subsystem may also be provided with a secondary remote-copy function that enables primary updated attribute information received from a subsystem to be remote-copied into another subsystem (see paragraph 20).

U.S. Patent Publication No. 2004/0098547 (Ofek) is entitled Apparatus and Methods for Transferring, Backing Up, and Restoring Data in a Computer System. Disclosed is a secondary storage system including a secondary storage media and means for storing an abstract block set on the secondary storage media. Blocks of the logical object that have changed since an earliest point in time are identified. The identified blocks are stored as a differential abstract block set.

U.S. Patent Publication No. 2004/0139128 (Becker) is entitled System and Method for Backing Up a Computer System. Disclosed is a backup manager 350 including a backup agent 354, an archive agent 358, and a restore agent 364. A log driver module 322 may forward sealed AILFC to the log creation agent 320 for transmission to backup system 340 (see figure 3, paragraphs 73 and 75).

b. Distinctions Between the References and the Claims

The present invention as recited in the claims filed are not taught or suggested by any of the above noted references whether taken individually or in combination with each other or in combination with any of the other references now of record.

The present invention as recited in the claims is directed to a method of controlling a storage system including a first storage device having a first storage volume provided at a first site, a second storage device having a second storage volume provided at a second site, and a third storage device having a third storage volume provided at a third site, the storage devices being connected so as to communicate with each other, wherein the method includes: storing a copy of data stored in the first storage volume in the second storage volume at a first time; writing the copy of data written in the first storage volume into the third storage volume; storing, in the third storage device, a write history of the data written in the first storage volume as a first differential management table after the first time; and allowing the third storage device to make contents of the data stored in the second storage volume consistent with contents of the data stored in the first storage volume using the first differential management table and the third storage volume of

the third storage device.

The above described features of the present invention, particularly storing, in a third storage device, a write history of the data written in a first storage volume as a first differential management table after the first time; and allowing the third storage device to make contents of the data stored in a second storage volume consistent with contents of the data stored in the first storage volume using the first differential management table and the third storage volume of the third storage device, or means for storing a write history of data written in a storage volume as a first differential management table after a first time and means for storing the write history of the data written into the storage volume as a second differential management table after a second time subsequent to the first time, are not taught or suggested by any of the references of record whether taken individually or in combination with each other.

6. Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.

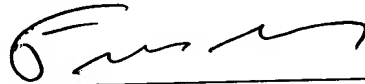
☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger & Malur, Deposit Account No. 50-1417 (500.43776x00).

Respectfully submitted,

MATTINGLY, STANGER & MALUR, P.C.



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FDB/sdb
Enclosures